

Remarks/Arguments:

Claims 1-20 are pending in the above-identified application. Claims 6, 7, and 11-15 are canceled.

Claim Objections

Claim 15 was objected to. Claim 15 has been canceled.

Section 102(b) Rejections

Claim 1 was rejected under 35 U.S.C. § 102(b) as being anticipated by Brooks et al. (U.S. Patent No. 6,195,241). This ground for rejection is overcome by the amendments to claim 1. In particular, Brooks et al. do not disclose or suggest:

"coupling an impedance device to at least one of the neutral conductor or the power conductor of the branch power line proximate to the at least one branching point," and
"coupling a fault recorder to the main power line to detect a fault in the main power line,"

as required by claim 1.

Brooks et al. concern a system for detecting arcing faults. (column 2, lines 19-21). The electrical distribution system 12 disclosed in Figure 1 includes line conductors 16a, 16b, . . . , 16n and neutral conductors 18a, 18b, . . . , 18n which distribute electrical power to loads 20a, 20b, . . . , 20n. (column 3, lines 10-13). Sensors 21 "monitor the rate of change of electrical current in the respective line conductors 16." (column 3, lines 28-29). Each respective sensor 21 sends signals to a respective arc detector 10, which signals correspond to the rate of change in the electrical current in the respective conductor 16. (column 3, lines 30-32). When a threshold is met, the respective arc detector 10 generates an arc-fault-detection signal that trips line interrupter 22, thereby cutting power to the respective load 20. (column 3, lines 30-41). Line interrupters 22 are preferably circuit breakers. (column 3, lines 18-19). The system also includes isolation devices 24a and 25a connected between load 20a and power transformer 14. (Fig. 1). An inductor L2 is disposed along load line 16. (Figs. 2 and 5, column 9, lines 1-5). A capacitor C8 connects load line 16 to neutral line 18. (Figs. 2 and 5, column 8,

lines 44-51). Blocking filter 23a is located near load 20. (Fig. 1). The placement of these devices does not disclose "coupling an impedance device . . . proximate to the at least one branching point." The circuit diagrams of Figs. 1, 2, and 5 of Brooks et al. do not disclose how far inductor L2, capacitor C8, blocking filter 23a, and isolation devices 24a and 25a are located from a branching point. The circuit diagrams of Figs. 1, 2, and 5 disclose the arrangements of circuit elements but not that the element are **proximate** to a branching point. In fact, the distance between a circuit element and a branching point could be large in the Brooks reference. Thus, Brooks et al. do not disclose that these devices are "proximate to the at least one branching point," as required by amended claim 1. Additionally, Brooks et al. do not disclose or suggest "coupling a fault recorder to the power line to detect a fault in the power line."

The subject invention represents an advantage over the system described in Brooks et al. because the impedance device of the present invention isolates the branching circuit at the branching point. Signals traveling along the power line are prevented from entering the branch and causing reflected signals to propagate back to the fault recorder. Coupling the impedance device to the branch circuit at a point not proximate to the branching point would allow a signal propagating along the power line to enter the branch, reflect off the impedance device, and return to the fault recorder, thereby increasing the difficulty of locating a fault in the power line. Because Brooks et al. do not disclose or suggest all of the limitations of claim 1, claim 1 and claims 2-5 and 8-10 which depend from claim 1 are not subject to rejection under 35 U.S.C. § 102(b) in view of Brooks et al.

Section 103 Rejections

Claim 16 was rejected under 35 U.S.C. § 103(a) as being obvious in view of Brooks et al. and Rockwell et al. (U.S. Patent No. 6,798,211). This ground for rejection is respectfully traversed. In particular, Brooks et al do not disclose or suggest:

"at least one impedance element coupled to the at least one branch section proximate to the at least one branching point,"

as required by claim 16.

Brooks et al. are described above. Rockwell et al. relate to a system which locates the position of faults in underground residential distribution power cable systems. (column 3, lines 17-18). The system uses a fault distance indicator 410 mounted in power line 412 to locate faults. (column 10, lines 9-13). Rockwell et al. do not disclose installing an impedance element **proximate** to a branching point. Accordingly, Rockwell et al. do not provide the material that is missing from Brooks et al. Consequently, claim 16 is not subject to rejection under 35 U.S.C. § 103(a) in view of Brooks et al. and Rockwell et al., and claims 17-20 which depend from claim 16 are not subject to rejection under 35 U.S.C. § 103(a) in view of Brooks et al. and Rockwell et al.

The prior art made of record but not applied has been considered but does not affect the patentability of the invention.

In view of the foregoing amendments and remarks, Applicant requests that the Examiner reconsider and withdraw the rejection of claims 1-5, 8-10, and 16-20.

Respectfully submitted,



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